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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,845	10/08/2003	Hiroyuki Fujino	36856.1132	7129

7590 12/10/2004
Keating & Bennett LLP
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EXAMINER

SUMMONS, BARBARA

ART UNIT PAPER NUMBER

2817

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/681,845

Applicant(s)

FUJINO ET AL.

Examiner

Barbara Summons

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-18 is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/8/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

EX PARTE QUAYLE ACTION

1. This application is in condition for allowance except for the following formal matters:

A. In the Drawings:

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: reference character "74", shown in Fig. 1, needs to be mentioned in the description. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

B. In the Specification:

The disclosure is objected to because of the following informalities:

On page 7, on line 10, "3c" should be -- 3 -- (see line 8).

On page 8, on line 7, "12" should be -- 15 -- (see Fig. 3A and the last line of page 8).

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On page 15, on each of lines 18 and 19, "2a" and "2b" should be respectively preceded by -- package -- (see line 16).

On page 16, on line 14, "15" should be -- 5 -- (see line 15).

Appropriate correction is required.

C. In the Claims:

In claim 9, on line 9, both occurrences of "the lid" should be changed to -- the respective lid -- or something similar since there are two "lids, respectively" for the two "separate packages" (see line 4).

Similarly, in claim 12, on line 2, "the lid" should be -- the respective lid --.

In claim 15, on line 1, again for clarity regarding the "lids", the Examiner suggests changing "the lid and the shield" to -- the shield and the respective lid that is electrically connected thereto -- (see claim 9, lines 9-10).

In claim 16, on line 2, "the lid" should be -- the respective lid --.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Allowable Subject Matter

2. Claims 1-18 are allowable over the prior art of record.

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3. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or fairly suggest a duplexer or composite module having each of the specifically recited features, and especially having a "filter" in "a package" with "an electroconductive lid", wherein the "filter has a ground terminal connected to the lid, the lid being electrically connected to a shield via a connecting member" (see claim 1, lines 6-7 and 10-12; claim 9, lines 3-4 and 8-10; and claim 17, lines 2-3 and 6-7), and the "filter" also having "a ground terminal(s) electrically connected to a ground terminal of the mounting substrate" (see claims 1, 8 and 17, the last two lines thereof). The prior art of record, as it relates to the invention as claimed, is discussed below.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kishimoto U.S. 6,700,061 is an equivalent of JP 2002-198774 that was cited by Applicants. It teaches a duplexer/module with a filter 22 (Fig. 4) in a package with an electroconductive lid 21b and a shield 16 (Figs. 1 and 2) provided over the entire duplexer/module. However, Kishimoto teaches away from electrically connecting the lid 21b to the shield 16 and even provides an insulating layer 28 to avoid electrically connecting the lid 21b and the shield 16.

Takahashi et al. U.S. 6,351,194 discloses a duplexer/module (Fig. 1) with filters 13a and 13b under a shield 15 with a connecting member 19 between the transmission

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filter chip 13a and the shield 15 for dissipating heat. However, there is no lid on a package of the filter chip 13a and the connecting member 19 appears to only connect the backside of the filter chip 13a and the shield 15. Alternatively, the element 15 would be considered the package lid with the entire duplexer being subsequently mounted on a mounting board (not shown), and therefore, a shield is not disclosed.

Hikita et al. U.S. 6,714,099 is cited because it shows that surface acoustic wave ladder filters and bulk acoustic wave ladder filters are art recognized alternative ladder filters in the duplexer/module art (see e.g. Fig. 4 and Fig. 10 vs. Fig. 11 and Fig. 15 vs. Fig. 16A).

Nishizawa et al. U.S. 6,469,593 is cited because it shows that castellations and through holes are art recognized equivalent means of connecting a package ground to the electroconductive lid of the package (see Fig. 1A vs. Fig. 1B).

Nishihara et al. JP 9-98046 discloses a duplexer/module wherein the filters may be bare chips (Fig. 10) or may be in their own packages (Fig. 8) and then covered by a shield SC (Fig. 8). However, the reference does not discuss electrically connecting a lid of the filter packages to the cover/shield SC.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara Summons whose telephone number is (571) 272-1771. The examiner can normally be reached on M-Th, M-Fr.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Pascal can be reached on (571) 271-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bs
December 8, 2004



**BARBARA SUMMONS
PRIMARY EXAMINER**